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Liberation – of Art and Technics:
Artistic Responses to Heidegger's Call for a Dialogue between Technics and Art

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Abstract. This paper is motivated by Heidegger's invitation to think the essence of technics through a dialogue between technics and art. This dialogue is approached with the help of several artworks belonging to what can be called the "technological turn" in art. First, I draw a schematic picture of notions of instrumentality, rationality, totality, and teleology inherited from classical philosophy of art and technology and challenged by contemporary art. I underline the Romantic claim that art overcomes these features thanks to its freedom and ask, referring to the work of Gilbert Simondon, whether technology could also be liberated from its subordination to utilitarian ends. Second, I look at how certain contemporary works of art attempt to solve some of these problems. Artists who seize technical objects generally seek to make their functioning visible and problematic by distorting, interrupting, or otherwise modifying the technical dispositif: this is when a machine becomes a work of art. I show how this happens in certain works of Rebecca Horn, Jean Tinguely, Anaïs Tondeur, Eduardo Kac, and Tomas Saraceno. In conclusion, I will show how art can liberate technology by liberating it from utility and instrumentality and by exposing it as such in its functioning. On the other hand, I argue that technology can liberate art, both through artistic techniques and nonartistic technological processes.

Keywords: art, contemporary art, technology, technics, continental philosophy of art

The Rivalry between Art and Technics

In what follows, in the wake of Heidegger's "The Origin of the Work of Art," I will approach art in the very general framework of the question concerning the essence of art. Readers of this text know that Heidegger elucidates the function of art as the "setting-into-work of truth": "that which is at work in the work [of art is] truth."[1] Accordingly, I will approach technics in the sense of the Heideggerian *Technik*, which does not mean simply particular instrumental and industrial practices, but points beyond them toward the essence of technics that, according to "The Question Concerning Technology," "is by no means anything technological," as "technology is a way of revealing . . . i.e., of truth." Modern technics reveals truth in a particular way in function of *Ge-stell*, approximatively translated as *enframing*.[2] Although the English translator of "The Question Concerning Technology" renders *Technik* by *technology*, this translation appears too restrictive to me, and this is why I will also use the words *technics* and *technique* (the latter being also the choice of the French translators of Heidegger). Instead of sharply distinguishing between technology, technique, and technics, as the English language invites to do, I look for their common essence in which these differences fade. On this level of abstraction, what, then, is the relationship between art and technics?

Art has always been haunted by technics.[3] It is obsessed by technics because it wants its ingenious instruments and reliable rules. At the same time, art fears instrumentality, regularity, and calculability, and does its best to conceal its own techniques and technologies. Technics is the repressed unconscious of art.

Technics, including modern technology, has, in turn, always been haunted by art. It is obsessed by art because it desires art's capacity for invention, discovery, and creation. At the same time it refuses to give priority to vision over knowledge, to intuition over calculation, or to phantastic chimaeras over solid, reliable structures. Technics exorcises the lighthearted irresponsibility of art, of which it is at the same time jealous.

The least one can say is that—ever since the first theories of *technē*—the relation between art and technics has been as ambiguous as it has been passionate. One is not the cause, the reason, the application, or the image of the other. They are similar without being the same, interlocked in a mimetic rivalry that cannot be satisfied by a conciliatory solution but rather only by an exacerbation of the combat.[4]

The difference between art and technics is the imperceptible, unthinkable difference between fantasy and rule, novelty and repetition, surprise and necessity that is one of the big metaphysical questions of our time. Elsewhere, I have analyzed this difference in terms of transcendence, understood not as the realization of ideas but as the transformation and the

generation of forms themselves.[5] I will not go into this question here; I simply mention it as the ultimate horizon of the problems confronted here, as I believe that the crucial question of the generativity of the transcendence is nowhere treated as profoundly as in the contemporary debate between art and technics that I will elucidate.

In what follows, I will try to see whether the ancient rivalry between art and technique has overcome old deadlocks and discovered new forms in the current trend of contemporary art since the 1980s that Ludovic Duhem has fittingly called the "technological turn in art," characterized by an explicit artistic thematization of contemporary industrial technologies.[6] Of course, art has always been "technical" in the sense that it has its own techniques and tools, and sometimes it reflects upon them in its works. The term "technological turn in art" refers to a specific type of contemporary artwork that not only displays technology but also uses as its medium contemporary industrial technologies not primarily designed for artistic use, such as industrial robots removed from their tasks and left to dance alone in a museum. Even though I start from very general philosophical problems, my aim is not to make general claims concerning what art in general, or contemporary art in particular, is or should be, but simply to see how the problems I am interested in have been confronted in several works that can be analyzed in terms of—for lack of anything better, but why not?—a "technological turn in art."

The rivalry between art and technics is ancient. I will first draw a schematic picture of some key conceptual dilemmas, inherited from classical philosophy of art and technics, and show how Heidegger makes them accessible to contemporary art. I will then look at how certain contemporary works of art attempt to solve some of these dilemmas. I do not pretend to give an exhaustive explication of recent trends in techno-art; I will simply evoke several works that fruitfully illustrate the relation between art and technics. Finally, I will propose a way of thinking about art as the liberation of technics and about technics as the liberation of art.

The historical background of the problem is generally well known. While for the ancient Greeks *technē* meant both art and technique, Kant and German Romanticism distinguished between the two. Schelling, in particular, regarded art as the presentation *par excellence* of philosophical truth: if truth was to be present, it could only be so in an artistic presentation.[7] Technics, on the contrary, was most often depreciated as a servile tool of economic activities. From Kant and Hegel up to Heidegger, when philosophers mention technics at all, it is mainly to reject it soon after, and artistic technique (instruments, rules of composition) is given a secondary role.

The relation between art and technics did not really become a focal point of philosophical investigation before Heidegger, although he initially follows the Romantic tradition in giving art a central role as the setting-to-work of truth: art *installs* the place in which truth can freely happen. However, beginning with "The Origin of the Work of Art," Heidegger draws attention to the fact that the work of art is also a thing, an installation (*thesis*) in which truth can appear, and thus also something technically produced and fabricated.[8] It is a work, but in order to be a work of art, its work-character must nonetheless be obliterated before its character of truth. As such, modern technics serves a science that "does not think,"[9] and in this sense, even technics is "stupid." Here, art is associated with truth, while technics leads to "erring" (*Irrnis*).[10]

In a scant remark at the end of "The Question Concerning Technology," Heidegger also notes that if we are able to question the essence of technics, instead of merely using it blindly, we are liberated to questioning the truth of our epoch: "For man becomes truly free only insofar as he belongs to the realm of destining and so becomes one who listens, though not only one who simply obeys. The essence of freedom is originally not connected with the will or even with the causality of human willing. Freedom governs the free space in the sense of the cleared, that is to say, revealed."[11] For Heidegger, freedom is always tied to the clarification of the essence of the epoch, here, of the epoch of technology. We cannot attain an understanding of our own being without facing the truth of the epoch of untruth (calculation, planning, resource, and totalization). But the revelation of the truth of the epoch of technology can only take place in art—on the condition that art stops scorning technology and looks for its essence instead. This is the sense of the enigmatic lines at very end of the essay:

> Because the essence of technology is nothing technological, essential reflection upon technology and decisive confrontation with it must happen in a realm that is, on the one hand, akin to the essence of technology and, on the other, fundamentally different from it. Such a realm is art. But certainly only if reflection upon art, for its part, does not shut its eyes to the constellation of truth, concerning which we are questioning. Thus questioning, we bear witness to the crisis that in our sheer preoccupation with technology we do not yet experience the essential unfolding of technology, that in our sheer aesthetic-mindedness we no longer guard and preserve the essential unfolding of art. Yet the more questioningly we ponder the essence of technology, the more mysterious the essence of art becomes.[12]

This is how the possibility of freedom in the epoch of technology depends of art's capacity of questioning its essence. Such questioning will also affect art's reflection on its own essence, especially because it shares the same origin as technique—*technē*. My aim in this article is to see how certain works of contemporary art can be analyzed as contributions to this project: they exercise a free relation to technics in order to make it possible to question the technics of our time more fundamentally. Since Heidegger says that a free relation to technics relates to the ambiguous essence of technics, but does not say much more about technics itself, I will also turn to the work of Gilbert Simondon, asking whether a *free relation to technics* could also reveal a *free technique* that is capable of some truth.

Heidegger points to the need for a free relation to technics that delivers technique from servility and liberates it for truth. He also claims that such a liberation calls for a dialogue between technics and art. According to him, the meditation on technique and art requires their mutual confrontation (*Auseinandersetzung*). Only a confrontation that does not reduce the two parties to a common ground, but rather reveals each party in the irreducibility of its proper essence, will allow us to question technics and encounter the secret of art.

Heidegger does not further elaborate on this confrontation. However, it is easy to see that art's dialogue with technics has been going on intensively for quite a while—in literature since the nineteenth century, in the visual arts since the beginning of the twentieth, and in philosophy since the mid-twentieth. Moreover, contemporary art historians refer to a "technological turn in art" since the 1980s. Let us take a look at the main philosophical concepts mobilized in the dialogue.

1) *Instrumentality*. The historical starting point of the dialogue between art and technics has been the concept of instrumentality. Both art and technics are seen as instruments, but in a different sense. Technics has always been understood primarily as a means subordinated to human aims in terms of its utility. Art was distinguished from technics as a means *without* utilitarian aims. Kant analyzed art's *Zweckmässigkeit ohne Zweck* and emphasized that beauty pleases *ohne Interesse*.[13]

The liberation of art from instrumentality brings it close to nature; in turn, nature's proximity with art contributes to the emergence of a new conception of nature. As Kant noticed and as Schelling realized more clearly, both art and nature are *Zweckmässigkeit ohne Zweck*. This does not mean that art imitates nature, but that they are connected by a deeper identity: both manifest the same free finality and original creativity. For Schelling, this original creativity is the modality of being itself, the fundamental metaphysical force that philosophy seeks to comprehend. It must be understood as belonging to both spirit and nature,

being visible especially in art and animality, so that the "true touching stone of philosophy is *tierische Kunsttrieb*" in which nature makes art and art is contained in nature.[14] While Schelling's remark may appear marginal, it will turn out to be useful for us later. It is radical in being opposed to the dominant Cartesian tradition that understood the animal as a dull machine and all of nature as a huge mechanism—that is, in Schelling's terms, as dead things. Understanding animality and nature in terms of art amounts to thinking them in terms of creation and life. Here we see that the dialogue between art and technics mobilizes the metaphysical question concerning nature. If nature is technical, it is bound to unchanging mechanical rules, but if it is like art, it is capable of genuine creativity.

2) *Rationality*. A second major movement of the dialogue between art and technics examines their inherent rationality. It is an inversion of the idea of instrumentality: instead of depicting art and technics as human instruments, it interprets the human being as the instrument of a spiritual or technological system. If, according to Schelling or Hegel, art and religion are capable of presenting *logos* in history, philosophers like Marx, Heidegger, Ellul, and the Frankfurt School think, by contrast, that the technical system also presents its *logos* in history—even though it is a false *logos*, not the absolute spirit but its demonic double. This is characteristic of the recent era of industrial capitalism, in which the entire world functions as a technical system in which we are just small components.

These theories affirm that both art and technics have their own aims that are superior to human intentions. Either the aims are superior to human knowledge, as they are for Schelling and, to a lesser extent, for Hegel, who thought that (great) art does not express human desires but the absolute *logos* itself—or, alternatively, these aims cover both human and absolute truth, as in the thesis of the technical epoch in which the human being does not so much make use of industrial capitalism but is rather utilized by it. Art and technics are not instruments at our disposal but have their own rationality, their own ways of representing reality as a systematic totality. The system uses us, sometimes putting us in the service of absolute truth—the role of art, religion, and philosophy according to Schelling and Hegel—and sometimes in the unholy service of the spirit of modern technology—the consequence of the *Ge-stell* of modern technics in Heidegger. (Lacoue-Labarthe would probably have said that Wagner's opera synthetizes both tendencies in a total techno-artistic work.[15])

3) *Proliferating multiplicities*. Today, the very idea of a (systematic) totality is contested in the name of change and multiplicity. The theses of the revelation of absolute spirit in art and of the totalitarian spirit of technology hold a common presupposition that is no longer tenable, namely, that there is *one* (true or unholy) *logos* that manifests itself in absolute art or

technique. This idea has now been challenged many times, for instance by Gilles Deleuze and Félix Guattari in *Anti-Oedipus*, or by Jacques Derrida in his early work, for instance, *Of Grammatology*. Derrida constructs his famous theory of writing partly as an answer to Heidegger. Against Heidegger, who keeps *logos* (and word) apart from technics, Derrida on the contrary shows the dependency of all *logos* on writing. According to Derrida, "writing" is irreducible: all systems of *logos* rely on different "techniques" of writing that inevitably have unintended and unreasonable effects on *logos*. Contrary to Heidegger's thesis, these effects do not incarnate a superior order, nor do they form a whole. Technics functions as writing and not as a total system, and there can be no absolute *logos* either, since the latter depends on the former. There are just discourses, as well as artistic and technological works and contexts, proliferating like vegetation without a general overall plan.

4) *Functioning.* It seems to me that today the dialogue between art and technics is no more about bringing them back to a common ground (such as *technē*, instrumentality, or rationality), but rather about making each party more visible in its singularity by confronting the other in its alterity and strangeness. The question is not what exterior aims art and technics serve (such as the human being, reason, or spirit) but, rather, how they respectively function in themselves. In what follows, I will try to find some logic to this confrontation. I will look for it in some technical contexts and some artworks.[16] The point is not to discover the reasons behind art and technics, but to understand their functioning: not *why* they are but *what* they are and *how*. Such a dialogue did not take place in Hegel and hardly even in Heidegger, but it is very important today.

Liberation of Technics

Let us suppose, following Heidegger's suggestion, that the aim of the dialogue between art and technics is the *liberation* of both into their respective essences. Since Romanticism, art claims its freedom: art must be free of servitude or it is not art. When art is free, it can be the site of truth that philosophers from Schelling to Heidegger have always seen in it. Art can make use of techniques and reflect upon them, but it should not serve them or be limited by them. This, however, is a reflection on technics as an instrument of art, not as its subject: technics is just a detour in the way towards truth, not the aim or topic of art.

Let us ask a rather unusual question: can one speak about freedom in technics and of liberation of technics? Heidegger called for a free relation to technics, meaning, firstly, the liberation of the human being from her subservience to technics to meditating upon the essence of technics. To some extent, this liberates technics as well: when technics is asked to

reveal its essence, it is no longer asked to serve as a tool, but, on the contrary, to stop functioning (like the famous hammer in *Being and Time*).[17] When Heidegger elaborates the question in an epochal context, he says that when modern technics is liberated from its function and allowed to reveal its essence, it discloses a totalitarian world of calculus and planning in which the human being and nature have been reduced to simple resources.[18] This is a liberation for a truth, albeit an uncomfortable and devastating one.

But, for Heidegger, the liberation of technics is always a liberation *from* technics towards another relation to *truth.* He is not interested in technical objects for their own sake. By contrast, this is precisely what interests Gilbert Simondon, who has recently become popular among art researchers.[19] Simondon's aim is rare in philosophy: the liberation of the technical object itself. He regrets that the technical objects are generally hidden behind human ends: they are most often examined simply in terms of a person's aims (the hammer is the means for constructing a house), which are sometimes complex (the hammer is fabricated in order to be sold on the capitalist market) and sometimes even philosophical (the hammer must break down so that I can start to philosophize about the world). Simondon asks instead: what is the technical object's own internal finality? What is its own individuation? What kind of an individual is it, what are its elements, and what are the assemblies to which it belongs? What is its associated milieu and evolution? Such questions "liberate" the object from its concrete and symbolic submission, especially from its subordination to economical ends, and in this way they "save" it. A free technical object is "open" in the sense that it allows interventions, calls for new inventions, and thus generates a truly technological thinking that is close to artistic imagination.[20] Today, engineers who study the possibility of free and open technologies develop machines that can learn and even program themselves.

Let me give you a familiar example. Following their technological evolution, our cell phones can contact all cell phones all over the world through sound, text, and image. This capacity is nonetheless hampered by operators who artificially make it difficult or even impossible to phone another country, by phone manufacturers who make phones such that they tend to break down after a year's use and fill it with silly games that blur the primary aim of communicating, and so on. In the world of computers, such artificial limits and intentional obsolescence are even stronger. Our technical apparatuses perform just a little part of what they actually can do, not because of technological obstacles but because of artificial limitations that stem from commercial interests. This is why we have turned from resourceful weekend handymen into inept consumers whose gadgets are "black boxes" that we can no longer open, fix, modify, and tinker with by ourselves.[21] This is the subjection that Simondon

resists. His aim is not to liberate us from technics but to liberate technics itself to evolve in terms of its true possibilities. When technological objects are set free to evolve freely, also the human beings are liberated to become the complete technical individuals that they are capable of being.

At the limit where the aim of technics is to become liberated in the activity of reflecting and realizing all of its possibilities, technology comes close to art. Both of them develop through reflecting on their own means. Musical evolution, for instance, has often been the result of composers' reflection on the available instrumental technologies of their art (such as the harpsichord) and of the compositional techniques of their time (for example, the fugue). Sometimes it is impossible to distinguish artistic and technological evolution, as for instance when the evolution of a technological instrument (such as the replacement of the harpsichord by the Hammerklavier) leads to more intensive art (Couperin gives way to Liszt), until a saturation of the instrument's possibilities brings about the question of the saturation of the entire art form (can you still compose for the piano today?). Sometimes the calm line of evolution is interrupted when a new and unexpected possibility emerges out of the blue and leads to different inventions (a keyboard linked to a computer is not a bad piano but a good sampler). Maybe the art-technical meditation on the essence of a given art or technique has reached the essence of the latter and overturned it; maybe an exterior contingent event has interfered in a line of evolution and given it a new direction. But is this the true liberation of art and technics or just their ordinary evolution? Isn't a piano liberated in an artwork, as in Rebecca Horn's *Concert for Anarchy* in which a grand piano is hung upside down so that one cannot play it?

Artistic Confrontations with Modern Technology

Contrary to those who, like Duhem, claim that Simondon's thinking is a key to new aesthetics, I think that something quite different happens when art questions technics. While Simondon, Friedrich Kittler, Bernard Stiegler, and others mainly want to liberate the technical object to function as well as possible, artists who seize technical objects generally seek to make this functioning visible and problematic. For this purpose, they distort, interrupt, or otherwise modify something in the technical dispositif, and this is when a machine becomes a work of art. Art liberates technics from its function towards a questioning of this function. Out of an abundance of works, I will extract just three lines of development: description of machines, deconstruction of productive processes, and engineering of chimaeras. What strikes

me most is the way in which each of them detaches technics from spiritual *truth* and relates it to a particular interpretation of *nature* instead.

Description of machines. For a long time already, numerous artworks have staged technological objects in order to ask what constitutes their technicity. Among the most obvious examples, one can mention Jean Tinguely's machines, such as *Rotozaza*. Tinguely studies the being-machine of machines by constructing pseudomachines that do not produce anything or serve any purpose other than their own joyful existence. Thanks to the rupture of external finality, internal finality can emerge; it appears in the machine's functioning, the essence of which is the repetition of the same. Sometimes reminiscent of strange otherworldly creatures, Tinguely's machines incarnate the Cartesian interpretation of the machine as an organized being that is capable of repetition, and this is also how he revives the Cartesian idea of nature as a repetitive mechanism that has no meaning of its own. A similar view is presented in the famous appendix of Gilles Deleuze's and Félix Guattari's *Anti-Oedipus*, where most examples of machines in art are show machines, liberated from productivity to pure functioning.[22] In these works, the fundamental characteristic of technics is *repetition*. This principle was widely studied in the 1960s (especially by Deleuze and Derrida), when repetitive techniques were valorized as a subversive antidote to a totalitarian *logos*. At the same time, albeit quite marginally, nature was sometimes presented as a repetitive non-*logos*, the prototype of which was the repetition compulsion of the human psyche.

Deconstruction of productive processes. Machines, however, not only function, they generally also produce something. Hence, there are artworks that examine productive processes in terms of their more or less intended effects and consequences. As an example, I point to Anaïs Tondeur's photos of leaves picked at Chernobyl (republished by her and Michael Marder in *Chernobyl Herbarium*). Tondeur's photos incarnate, in a delicate manner, the devastating consequences of nuclear technologies, which must be counted among the technologies most symptomatic of our times. These photos do not study a technology as a repetitive process but, on the contrary, as an ambiguous agent of definite change. They examine nuclear technology as a productive process, and remind us that in material reality, every production is also a production of pollution and waste. Furthermore, no production is only the fabrication of a product, but is always also the adjustment of an entire associated milieu in such a way that each arrangement of a territory is also a devastation (of something in it). Directing attention towards a technology that changes natural beings and lifeworlds into resources and puts them in danger, Tondeur goes in a direction that Heidegger has signaled without ever going there himself. But she does something else as well, insofar as the milieu

she reveals is not a historical place of a people but the natural milieu of different plants. What she studies is not a world in Heidegger's sense but a biological environment. She interprets "nature" as living beings with their environments. Tondeur examines technological processes that would not exist if they were not parasitic upon natural processes, and shows how this parasitic character ends by modifying some other natural processes permanently. The leaves she photographs are definitely polluted and transformed by nuclear fallout.[23]

Engineering chimaeras. Yet another gesture can be found in contemporary art when technical devices are not *shown* but are *used* in order to measure the limits of what they can do. An infamous example of this approach is, of course, Eduardo Kac's *GFP Bunny*: a living rabbit, Alba, that glows green in the dark, because it has been created, at Kac's demand, by INRA through the addition of genetic material from a jellyfish into a rabbit embryo. Who actually did what and why is not clear, but the point is that the artist did not actually *do* much more than *want* a chimaera, which was then produced in a laboratory by specialists, not by Kac himself, who lacks the equipment and the knowhow. In contrast to Tinguely and Tondeur, Kac does not use virtuoso artistic techniques in order to picture technological objects: on the contrary, his work is based on technological processes that the artist does *not* master, but which he lets function in order to see what emerges when an existing technology is set free to develop all its possibilities. In this case, new biotechnologies picture nature as a plastic, modifiable matter out of which chimaeras can be made. (Note, however, that rather than mastering a technique, Kac's mastery consists in *wanting* its use: maybe he is a virtuoso consumer.)

A much more likeable example is Tomás Saraceno's *Spider Session*, which represents for us a complementary work to *GFP Bunny*. In *Spider Session*, Saraceno exposes techniques used by spiders in order to build their webs. His point is to show a technical exploit that neither he nor any other human being is capable of performing: the construction of a spiderweb, a perfect example of the *tierische Kunsttrieb* described by Schelling. What the artist can do is direct us to this natural technique by exposing the spiders in glass boxes. What we see is not the workings of an existing human technology but the functioning of an animal technology that it is impossible, or at least very difficult, for humans to imitate. It shows the plasticity of nature, not as an object modeled by our desires but as a subject that already models its environment in ways alien to us.[24] Spiders have inspired many of Saraceno's other works as well, such as *On Space Time Foam,* which is a part of his *Cloud Cities* series. Here he has been helped by professional mathematicians. Once again the artist shows how little he can do by himself and how his role is limited to *wanting* to use a given technique.

Works such as these examine very complicated technologies by exposing what seems to be a natural object that cannot itself be found in nature, since it wouldn't be visible without a technological dispositif (such as spiderweb architecture) or wouldn't even exist without a technological intervention (Alba). They appear because of a technological process that an artist has set in motion but the result of which is not entirely controllable by them: indeed, in these cases, a techno-natural process is *expected to surprise* its inceptor. The gesture of abandon of the use of human senses and crafts, and of letting-go of a technological process to do whatever it can do, can also be found, for instance, in Christian Boltanski's *Les Archives du Cœur*, which is an archive, now situated on the Japanese island of Teshima, of recordings of thousands of series of human heartbeats. This is a work that is finally made by the recording device and that cannot be "listened to" or "seen" in its totality by anybody, not even the artist himself. At this limit, we could almost say that the technological device itself *is* the artist. One can ask whether a machine like *Philae*, which has not been constructed as an artwork but nonetheless awakens a very similar emotion (at least in myself), is not finally very close to these works.[25]

How does art liberate technology in works of this type? When are these processes "art" and not just capitalist consumption of new technological possibilities? Following both Heidegger and Walter Benjamin, in a situation very different than theirs, we could say: in the works that enframe and set forth a technological possibility, art happens when a world is set into a work in such a way that it brings about a shock. We are not in Kant's or Heidegger's world anymore: the shock is caused neither by the beauty of the works, nor because of their sublime greatness, nor by the signs of gods that give sense to a people's historical dwelling (as in Heidegger's interpretations of Hölderlin). Art surely happens when something in our thoughts is suspended, interrupted, like in the Kantian analytic of the sublime. But what is interrupted, then? At least six features appear.

1) *Work*. Our expectations concerning the being of a work of art are interrupted, since the machine is a strange artwork that is not encountered most essentially through the senses but through the observation of its capacity for functioning and producing. Neither the craft of the artist nor the senses of the public matter much: we are invited to observe a techno-natural dispositif do whatever *it* can do.

2) *World*. Our expectations of what the world is are interrupted, since the technological dispositif produces a difference in the world, if not an entirely different world. The technological works of art do not produce a *world of sense* that grounds the homeworld of a human community (as in Hegel's or Heidegger's examples of Great Art). Instead of a

"world," a technological dispositif can enframe its dissolution, or an altogether different environment or "associated milieu" that is rather characterized by nonsense (Tinguely), accidents (Tondeur), and the hazardous chance of chimerical productions.

3) *Techno-nature*. But what "spirit" deems nonsensical can be entirely coherent from the point of view of nature. Of course, in these works, our expectations of what nature is are interrupted. They seem to mime nature without being "natural" at all (in the sense in which Kant, for instance, would have understood "natural"). Chernobyl leaves, the rabbit Alba, spiderweb constructions, and the heart archive's heartbeats are, each in their own (very different) way, artificial natural beings, chimerical creatures. Certainly they are fabricated (by the artist, by their technical aids, by machines, by animals). But, at the same time, as soon as a living creature is fabricated, it becomes a genuine living being that lives its own life like any other living being. The technologically affected natural beings and fabricated chimeras live on and have their own individuation, open up their own associated milieu, and start their own evolutionary possibilities.

The works that we have examined point out precisely that, for us, this artificiality belongs to nature. All types of techno-art were grafted upon a conception of *nature*: nature as a repetitive mechanism (Tinguely), as sensitive environment (Tondeur), or as modifiable and even creative processes (Saraceno and Kac). Not only does each technology relies on a certain force of nature but each one of them also produces a certain nature. Nature and technique cannot be opposed and differentiated anymore; one produces the other and there is only one singular *techno-nature*, the production of which—*out of the différance between repetition and creation*—is the ultimate question of techno-art.

4) *Surprise and contingency*. Note that the use of techno-scientific means to reveal our general techno-natural condition does not mean reducing everything to calculable and planified processes (as in Heidegger's explications of the technical age). On the contrary, in these works, our expectations of the ordinary course of technology and nature are surprised. We encounter a glowing rabbit, a spiderweb city, an image sent by a robot from a distant comet. What surprises us is not the order and the grandeur of nature, like in Kant, nor the coming of a god, like in Heidegger. It is an invention that may be set forth by human curiosity, but is fundamentally the discovery of something that human beings did *not* foresee—such as the discovery of *tierische Kunsttrieb* mentioned by Schelling. The human artistic gesture is made discreet and passive in order to welcome something unexpected, unplanned, and genuinely surprising: techno-nature's own artistic gesture. When a technological process is set to work beyond the reach of the human hand, it is *expected* to

produce something *unexpected* (the paradox is intentional). At least the artist *hopes* for the end of repetition, the happening of invention, and the emergence of novelty. The technological process itself is the place of the emergence of this new thing. The work gives place to a chance that the artist could not foresee. And what does the surprise show? Neither God nor reason nor pure nature—but rather the *contingency* of technological creations (such as a chimaera, a hazardous genetic code, or maybe a distant comet).

This is the philosophical heart of the problematics touched by contemporary techno-art. Through technology, this art is obsessed by nature, because nature has changed much more than our current official representations of it admit. It is not orderly and regular, as with Newton's mechanics as well as schoolbooks and political discourses: it has turned out to be changing, surprising, and unexpected, sometimes in terms of our doings, and sometimes quite on its own. The ontological fabric of our reality is the very opposite of classical ontotheology because it rests on a techno-nature that is in itself multiple, contingent, and surprising.

5) *Artist*. Especially the works in which chimaeras are engineered, our expectations of the work of the artist are interrupted. As we have already seen, in these works, the artist seeks a passive attitude of letting-be and letting-happen. S/he quits the attitude of craft and making and mimes science and thinking instead. S/he hardly engages in activities like painting, constructing, making a lab synthesis, or caring for a living being, at least not as a virtuoso artist but at most as a simple lab assistant whose work is not distinguished by any exceptional skill. The artist simply performs the gesture of enframing a techno-natural process. This gesture of pointing out a process that is already virtually present in a natural situation provoked by a technological dispositif is the heart of the work. It indicates the problematic moment in which human intervention changes an impossible process into a quasinatural possibility.

6) *Political judgment*. Finally, most techno-natural artworks examined here interrupt something in our ethical or political expectations and call for evaluation and judgment. Something that might seem natural (a leaf, a rabbit) is actually produced by a human agent; the decision to do this, a decision that can be neither justified nor forbidden, has actually been made. A baby rabbit is not simply born to its mother, it is made to glow in the dark with jellyfish colors. A spider does not simply weave a web but is imprisoned to do it. Are you shocked by the Chernobyl leaves and Alba the rabbit? In modern art, an artwork is not expected to moralize. Nonetheless, it can still bring us to the verge of the *tragical* that, ever since Aristotle, has marked the moment in which art produces an ethical or a political shock. In techno-natural works, the tragical effect rises, for the first time, not only from the human

community but from the environing techno-nature. Was the fate of these leaves and rabbits fair? Did the inhabitants of Chernobyl deserve their fate? Ordinary scientific and political discourses do everything they can to avoid any emotions evoked by the promises and dangers of, say, fossil fuels, nuclear technologies, information technologies, and biotechnological manipulation. Where tragical emotions are absent, moral evidences are not reconsidered and political decisions are replaced by specialist recommendations. In such circumstances, art can be more than shock at the fact *that this is*: it can also be the moral shock that asks what *should* be and what should not.

This, arguably, is how art ultimately liberates technology in "technological art." It liberates it from the kind of *moral idiocy* that is often attributed to technologies when they are regarded as mere instruments. Art claims that it needs to be free to do anything feasible and that, because of the disinterestedness of beauty, no work of art should be evaluated morally. Science and technology reclaim the same freedom in the name of pure knowledge that as such is beyond good and evil ("it's not the nuclear bomb that is evil, it's the hand that launches it"). Techno-art, however, questions these claims by forcing us to ask whether everything can really be instrumentalized (if you can make Alba, why not a human baby with the respiratory system of a fish, in order to produce a mermaid?) and whether, rather than suspending judgment before art, we are not invited to make judgments *here and now* about these complicated cases that are ordinarily *not* judged by the general public. These are perhaps unusual and unwelcome questions in the visual arts, but literature is used to them. Think about Margaret Atwood's *Madd'addam* trilogy or Svetlana Alexievich's books on Chernobyl or the fall of the Soviet empire. Their aim is not to show a technology as neutral but, on the contrary, to show how the tragical is today embedded in the technological.

How Does Technique Liberate Art?

We have seen how art can liberate technology from its utility and instrumentality and expose it as such in its functioning. The work allows us to glimpse its associated milieu and the need to chart it; it is also a signpost from which one can try to measure the width and the depth of the world in which the technical device has first been found. The works we have studied no longer carry out Heidegger's artistic program; instead of a "setting into work of truth," the artwork becomes an invitation to examine and to evaluate its workings independently of their truthfulness. In order to complete the task of examining the dialogue between art and technology that we have nonetheless inherited from Heidegger, we should also ask whether technology, in turn, liberates art, and how.

It is important to be careful with terms here. As we have seen, art has never been without techniques: *technē* (and *Kunst*) is, from the beginning, both art and technique. This identity concerns artistic techniques themselves: a painter's materials, a musician's instruments, or a writer's words on the one hand; rules of composition, harmony, rhyme, measure, and other technical principles on the other. If certain philosophers such as Kant minimize the role of artistic techniques and maximize the role of natural talent of the genius, those with insight into actual artistic practice will often underline the necessity, for the artist, of mastering the techniques of one's art and of *then* transcending and overcoming simple technicity towards the ideality of art *within* the framework of technical mastery. The liberation of an art within its technique generally consists in the transgression of a rule—such as painting a smiling Madonna or composing a *diabolus in musica*—that becomes a sparkle of freedom within a rule. As Peter Szendy has shown concerning music in his *Membres fantômes: des corps musiciens*, the transgression of technique presupposes an intimate connection between the musician's body, sensibility, and thoughts, on the one hand, and the technical instruments and rules, on the other—the haunting of the one by the other.[26] We may ask whether Hegelian philosophers are right in assuming that, in the end, technicality has to give way to the ideality and spirituality of Beauty?[27]

It seems to me that the works of Jean-Luc Nancy provide a counterargument to this, as they remind us that art needs to *touch* and that this touching is also *embodied* and therefore *technical* (in the sense that bodies, according to Nancy's *Corpus*, are "ecotechnical" objects—which is not to say that they are "technological").[28] Can we be touched without some "body" that not just *is* but, directly or indirectly, exposes itself ecotechnically in dancing, singing, playing an instrument, speaking, writing, or painting? The contemplation of beauty in an artwork may move our reason, but this is perhaps possible only because its technical execution has the power of moving and touching our existence in the first place. I doubt that, however "conceptual" the work, the spectators', listeners', or readers' experience of art could truly take place without the joy caused by *some* technical virtuosity. It would seem that in some works, the weakening of the sensible aspect of the work is accompanied by the emergence of its technical aspect that had been left in the shadow of the sensible surface. Even if it is sometimes difficult to see how a technological work of art "touches" us, this is perhaps because it has not exactly been given to the senses (eyes, ears…) but to something that can be called intelligence or capacity for observation (something that asks "how does it work?"). Should we think that these works touch us by their very technicity, and thus by something that *is* not a form but rather *gives* form?

But this only concerns the artistic techniques that have always been both used (in order to do art) and reflected upon (in order to create more beauty). The artworks of the "technological turn" deal with technology in a different sense: they study technological objects and processes that, to start with, have nothing to do with art (or lose their art, like Rebecca Horn's hanging piano). These works do not rise from art's self-reflection but from the reflection of technological reality in art. Of course, sometimes this reflection is executed by means of traditional artistic techniques. Tinguely and Tondeur, for example, are still virtuosos in their respective techniques (sculpture and photography), and the reflection of technique as artistic subject takes place within the artist's reflection of his or her own artistic technique (for instance, does not photographic film capture nuclear radiation as well?). By contrast, installations and happenings like those of Kac and Saraceno let technological processes function according to their own logic that has little or nothing to do with traditional artistic techniques. In order to install these works, the artists have given up their technical mastery, and they either work as amateurs or engage specialists to perform the technical work that the artist simply *conceives*. In contrast to traditional "fine art," their art resembles the art of the set decorator that has rarely been very highly esteemed (with exceptions, such as the court of Louis XIV). In the contemporary context, however, the primary focus of their work is elsewhere. Paradoxically, it would seem that the more they penetrate into the essence of modern technics, the more they give up their own technical mastery. This discloses contemporary technics as a very particular type of *technē*: as a sophisticated technique that *excludes* human technical mastery, making the artist a definite dilettante or novice. In abandoning technique, art also abandons itself: rather than active artistic making, it seeks the passivity of conceiving and contemplating. From doing, art tends to turn into simple knowing; from looking and hearing, it tends to turn into mere thinking. Here, the relation between art and technique consists in this suspension, in the creation of a void between the two. In a way, the encounter of new technologies empties art of its own techniques and makes it "stupid," "ignorant," or "amateur," in the sense that it uses, without specialist knowhow, means other than its own proper techniques.

In these cases, being in a free relation to a technique does not mean using it as freely as possible as an instrument, but, on the contrary, leaving it to its own being, becoming receptive towards it, and letting oneself be used by it. Heidegger's word "releasement" (*Gelassenheit*) could well describe this attitude, were it not directed primarily against modern technology, and not towards it.[29] The "releasement" *towards* technology that we find in contemporary art sometimes resembles the primitive phenomena of possession, in which the human being

abandons herself to an alien force (for instance, the force of an artistic technique), and yet it is something else; here, one gives oneself over to a technical dispositif as its material knowingly and willingly. This is particularly evident in works like Boltanski's *Archives du cœur*, but the same mechanism can also be seen in any work in which the artist steps back from a technical dispositif in order to let it develop all its possibilities freely. The difficulty, here, consists in letting oneself be used while at the same time remaining capable of judging this use.

This change of means brings about a certain emptiness. Art makes use of untraditional means that cannot be mastered with virtuosity, techniques and technologies that are strange, enigmatic, and incomprehensible for it. By using them "badly" it reveals the emptiness of the techniques in question, the void ignored by the techniques themselves. Accordingly, the artistic gesture lets technique/technology see the emptiness and strangeness of its own means (after all, what on earth exactly am I doing here?). In this dialogue, both participants are faced with their own void because of the question posed by the other, a question that does not follow expected rules: it would be strange to ask whether a technology is beautiful, and it is also strange to ask whether an artistic process functions well. This is how the dialogue discloses the lack of foundation in both.

Does this kind of art reveal the artist as the inept consumer of technological gadgets that saddened Simondon? Or does it, on the contrary, open up a new dialogue between the artist and the engineer, a dialogue in which both are faced with their own incompetence through the other's deficient understanding (why do you do that? and how?) and both nonetheless insist that they share a common technological reality. Art liberates technique from technique, since its works are neither useful nor sensible. Technique liberates art from art—it makes art, so to speak, lose its means. The gesture between the two remains visible, intelligible: it is an interrogative gesture precisely because it is mute, stunned, and ignorant.

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Notes

[1] Heidegger, "Der Ursprung des Kunstwerkes," in *Gesamtausgabe*, vol. 5, 45–46 (hereafter, GA 5)/"The Origin of the Work of Art," trans. A Hofstadter, in *Basic Writings*, 182 (hereafter, OWA).

[2] Heidegger, "Die Frage nach der Technik," in *Vorträge und Aufsätze*, 9, 16, 23/"The Question Concerning Technology," trans. W. Lovitt, in *Basic Writings*, 311, 318, 324.

[3] *Haunting* is a mode of phenomenality without phenomenon, or of presence without a present thing, that Jacques Derrida introduced as a phenomenological problem in *Specters of Marx*. An example of haunting is the ghost of Hamlet's father's, whose presence was effective (it made Hamlet do many things), even though a ghost is, of course, not "really" present. By extension, haunting became a general name for all kinds of invisible influences. Here, art is "haunted" by technique when it is obsessed by it rather than consciously reflecting upon of its role.

[4] The work of Philippe Lacoue-Labarthe work is an indispensable background for any work on this mimetic rivalry, as well as on the logic of mimetic rivalry in general. See Lacoue-Labarthe, *The Subject of Philosophy* and *L'imitation des modernes*.

[5] Lindberg, *Le monde défait*.

[6] I take the term from Ludovic Duhem, according to whom the technological turn in art begins in the 1980s. For a detailed presentation of the place given to technique in philosophy of art, I refer to Duhem, "Introduction à la techno-esthétique" and "Vers une techno-esthétique."

[7] Particularly in the last part of his *System of Transcendental Idealism* (1800), Schelling affirms that art is "the only true and eternal organ and document of philosophy." F. W. J. Schelling, *Sämmtliche Werke*, vol 1.3, 627/*System of Transcendental Idealism*, 231.

[8] GA 5, 48/OWA, 186.

[9] Heidegger, "Was heisst Denken?", in *Vorträge und Aufsätze*, 127/"What Calls for Thinking?", trans. D.F. Krell, in *Basic Writings*, 373.

[10] Heidegger, "Überwindung der Metaphysik", in *Vorträge und Aufsätze*, 88–89/ "Overcoming Metaphysics," trans. J. Stambaugh, in *The End of Philosophy*, 107.

[11] Heidegger, "Die Frage nach der Technik," in *Vorträge und Aufsätze*, 28/"The Question Concerning Technology," trans. W. Lovitt, in *Basic Writings*, 330.

[12] Heidegger, "Die Frage nach der Technik," in *Vorträge und Aufsätze*, 39–40/"The Question Concerning Technology," in *Basic Writings*, 340–41.

[13] Kant, *Kritik der Urteilskraft*/*Critique of the Power of Judgment*, § 15.

[14] Schelling, *Sämmtliche Werke*, vol. 1.7, 455.

[15] Lacoue-Labarthe, *Musica ficta*.

[16] The examples below have been chosen almost at random. There are many works in which art stages technology—from the Gothic novels of E. T. A. Hoffman and Mary Shelley through futurist paintings to contemporary technological and biotechnological art. On the other hand, modern technologies use more and more artistic means, sometimes simply by downplaying art into design (media and communication technologies), but sometimes also by exploring the artistic dimensions of a technological device (for instance, the ongoing debates on whether computer games can be art).

[17] Heidegger, *Sein und Zeit*, 63–110/*Being and Time*, 63–107.

[18] See, e.g., Heidegger, "Das Ge-stell", in *Gesamtausgabe*, vol. 79, 24–45/ "Positionality," in *Bremen and Freiburg Lectures*, 23–43.

[19] Simondon, *Du mode d'existence des objets techniques*.

[20] A scientific example of such free technological thinking could be the accidental discovery of X-rays while investigating cathode rays with Crookes tubes.

[21] The same phenomenon is described by Friedrich Kittler when he shows how, in the 1920s, radio become a public service only after radio technology had been diluted from its original sending-receiving capacity to a receive-only-device. See Kittler, *The Truth of the Technological World*.

[22] Deleuze and Guattari, *Anti-Œdipus*, 463–87.

[23] See also: Tuula Närhinen, *Baltic Sea Plastique*: http://www.tuulanarhinen.net/artworks/baltplast.html

[24] In the dialogue with Toni Hildebrandt, "World-Making Models," 171, Eduardo Kac explains Alba as follows: "As a bioartist, I do not make objects, I make subjects, and a subject is biologically living, not a metaphor." But precisely: insofar as Alba is "made," it is also an object, and its subjectivity is like the subjectivity of all chimaeras marked by the desire of another subject that has wanted it to be different from all other rabbits of the world.

[25] Philae is a robotic European Space Agency lander brought by the spacecraft Rosetta to Comet 67B Churymov-Gerasimenko, located some 500 million kilometers from Earth. For a while, Philae sent images back to Earth, then fell into a "hibernation" because of empty batteries, "woke up" a couple of times when its solar panels were charged, and is now no longer able to communicate. Think about the tiny robot, left alone on a barren stone in the midst of darkest infinity in order to "see" infinity for us, while we cannot see it seeing anymore… would you call Philae useful—or sublime?

[26] Peter Szendy, *Membres fantômes – Des corps musiciens*.

[27] Like Adorno who thought that the best way of appreciating music is reading its score silently. This may have been a "virtue out of necessity."

[28] Nancy, *Corpus*, 89.

[29] Heidegger, "Gelassenheit," in *Gesamtausgabe,* vol. 16, 527–28/*Discourse on Thinking*, 54–55.

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